

With regard to the objection to the drawings under 37 C.F.R. § 1.83(a), it is respectfully submitted that the drawings submitted under separate cover have remedied the noted informality. Accordingly, it is respectfully requested that this objection be withdrawn.

With regard to the objection to Claim 8, Claim 8 has been canceled herewith. Likewise, with regard to the rejection of Claims 7 and 8 under 35 U.S.C. § 112, second paragraph, this rejection has been rendered moot by the cancellation of these claims.

With regard to the rejection of Claims 1-4 and 6-13 under 35 U.S.C. § 102(b) as anticipated by European Patent Document (EP 0489966A1, hereafter EP '966), this rejection is respectfully traversed. Claims 14-18 and 19-24 correspond to the subject matter of Claims 1-4 and 6-13.

Typically, in industrial robots, the power cable set is usually arranged inside the robot arm for power supplied to the tool itself.¹ Industrial robots include cable sets, which are drawn out and in through comparatively narrow spaces in the manipulator pieces. Problems arise when an old cable set is to be removed and a new cable set is to be installed. When the old cable set is removed, the individual cables and wires in this cable set may tangle with the remaining cables and wires, and pull the remaining cables and wires out or tear them apart. Additionally, when adding a new cable set, the new cable set frequently becomes stuck and is damaged. Both of these undesirable situations lead to additional assembly work on the robot, including expensive delays as a result of these additional assembly work.²

Additionally, ready-manufactured cable sets include relatively large connectors. Some of these connectors cannot pass through one or several of the openings, because the available space in the openings is too small. In order to have these relatively large connectors inserted, it is often required to partly dismantle the robot to install the cable sets. This greatly

¹ Specification, page 1, lines 8-10.

² Specification, page 1, line 32-page 2, line 5.

increases the cost of the operation of the robot.³ Still another problem involving industrial robots is that dirt and waste material may penetrate to the interior of the manipulator through the openings for the cable sets. Such undesired entry of dirt and waste may result in unwanted stoppage, which therefore makes production using robots more expensive. Furthermore, dirt inside the robot increases wear on the robot and reduces the robot's lifetime.⁴

In light of the above-described difficulties, the Applicants have developed an industrial robot including a manipulator with a control system having at least two holders through which at least two cable sets run, respectively. According to the present invention, the holders have detachably fixed along a section of an edge area of an opening of the industrial robot.⁵

By contrast, EP '966 shows a holder positioned through a lid. One holder holds all cables. Therefore, it is only possible to remove all the cables by detaching the holder. Consequently, because each holder does not hold a single cable, the robot described in EP '966 is not capable of achieving the advantages of the present invention. Specifically, use of the robot of EP '966 results in the very problems that the Applicants have overcome. It is therefore respectfully submitted that the pending claims patentably distinguish over EP '966.

With regard to the rejection of Claim 5 under 35 U.S.C. § 103(a) as unpatentable over EP '966 in view of Bohler et al. (U.S. Pat. No., 4,732,294, hereafter Bohler), this rejection has been rendered moot. However, Claim 18 recites the subject matter of canceled Claim 5, and depends from Claim 16, which depends from independent Claim 14.

As noted above, EP '966 fails to disclose or suggest the limitations recited in Claim 14. It is respectfully submitted that Bohler fails to remedy the above-noted defects of EP

³ Specification, page 2, lines 6-10.

⁴ Specification, page 2, lines 16-19.

'966. Bohler relates to a safety latch means for filter assembly. Bohler, which is not in the field of art of the present invention, does not disclose or suggest any type of industrial robot. Specifically, Bohler fails to disclose or suggest an industrial robot including at least two holders, through which at least two cables set respectively run.

Consequently, as neither of the cited references, either alone or in combination, discloses or suggests the limitations recited in pending Claim 14, it is respectfully submitted that dependent Claim 18 patentably distinguishes over these references for at least the reasons above-noted with respect to Claim 14.

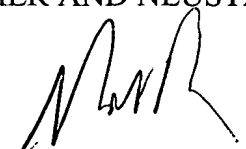
Moreover, it is respectfully submitted that there is no basis in the teachings of either of these references to support the proposed combination. Certainly, the Office Action fails to cite to any teachings within either of these references to support the proposed combination. It is therefore respectfully submitted that the proposed combination of EP '966 with Bohler is based solely upon impermissible hindsight. It is therefore respectfully requested that this rejection be withdrawn.

⁵ See, e.g. Figure 3.

Consequently, in view of the foregoing discussion and present amendment, it is respectfully submitted that the pending application is in condition for immediate allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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IN THE SPECIFICATION

At page 4, line 30, please insert the following:

The manipulator may include a control system 20, as shown in Figure 1.

IN THE CLAIMS

Claims 1-13 (Canceled).

Claims 14-26 (New).